

Project: 2011 Annual Groundwater Monitoring Event –
Ashland Aqualon Functional Ingredients,
1111 Hercules Road, Hopewell, Virginia
Laboratory: Test America, Savannah, Georgia
Sample Delivery Group: HAQ035
Fraction: Inorganic
Matrix: Aqueous
Report Date: 7/18/2011

This analytical quality assurance report is based upon a review of analytical data generated for groundwater samples. One equipment blank, one field blank, one field duplicate, and one matrix spike matrix spike duplicate were submitted with the samples in this SDG. The sample locations, laboratory identification numbers, sample collection dates, sample matrix, and analyses performed are presented in Table 1.

The sample analyses were performed in accordance with the procedures outlined in "Test Methods for Evaluating Solid Wastes", SW-846, third edition, Promulgated Updates II, IIA, and III, IVA, and IVB, January 2008, and "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1983.

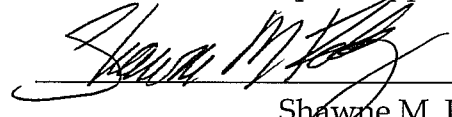
All sample analyses have undergone an analytical quality assurance review to ensure adherence to the required protocols. Results have been validated or qualified according to general guidance provided in the Region III modifications to "USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review", USEPA 10/2004. This document specifies procedures for validating data generated for CLP analyses. Therefore, the quality control requirements specified in the methods and associated acceptance criteria were also used to evaluate the non-CLP data. The parameters presented on the following page were evaluated.

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- X • Data Completeness
 - X • Chain of Custody Documentation
 - X • Holding Times
 - X • Initial and Continuing Calibrations
 - X • ICP Interference Check Sample Results
 - X • Laboratory and Field Blank Analysis Results
 - X • Matrix Spike Recoveries and Reproducibility
 - X • Laboratory Duplicate Analysis Results
 - X • ICP Serial Dilution Results
 - X • Field Duplicate Analysis Results
 - X • Laboratory Control Sample Results
 - GFAA Post-Digestion Spike Recovery/Duplicate Burn Precision
 - X • Qualitative Identification
 - X • Quantitation/Reporting Limits
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X - Denotes parameter evaluated.

It is recommended that the data only be used according to the qualifiers presented, and discussed in this report. All other data should be considered qualitatively and quantitatively valid as reported by the laboratory, based on the items evaluated.

Report Approved By:


Shawne M. Rodgers
President

1/19/2011

Date

1.0 DATA COMPLETENESS

The data package was complete.

2.0 CHAIN OF CUSTODY DOCUMENTATION

All chain of custody documentation was complete.

3.0 HOLDING TIMES

All criteria were met. No qualifiers were applied.

4.0 INITIAL AND CONTINUING CALIBRATIONS

All criteria were met. No qualifiers were applied.

5.0 ICP INTERFERENCE CHECK SAMPLE RESULTS

All criteria were met. No qualifiers were applied.

6.0 LABORATORY AND FIELD BLANK ANALYSIS RESULTS

All criteria were met. No qualifiers were applied.

7.0 MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERIES AND REPRODUCIBILITY

All criteria were met. No qualifiers were applied.

8.0 *LABORATORY DUPLICATE RESULTS*

All criteria were met. No qualifiers were applied.

9.0 *ICP SERIAL DILUTION RESULTS*

Positive cobalt results reported for samples RAB-MW2, RAB-MW4, Field Dup, NAT-3, NAT-2, NAT-1, RAB-MW3, MW-10, MW-7U, and MW-7L are quantitative estimates. The ICP serial precision criterion was exceeded for this analyte. The lack of precision may be due to interferences in samples of similar matrix. The positive cobalt results have been marked with "J" qualifiers to indicate that they are quantitative estimates.

10.0 *FIELD DUPLICATE RESULTS*

Duplicate samples NAT-3 and Field Dup were submitted to the laboratory evaluate sampling and analytical precision for those analytes determined to be present. Results for these duplicate samples are presented in Table 2. There are no USEPA-established acceptance criteria for field duplicate samples. EDQ uses internal an acceptance criterion of 25 percent for values greater than five times the reporting limit (RL) (or \pm the RL for results less than five times the RL.

11.0 *LABORATORY CONTROL SAMPLE RESULTS*

All criteria were met. No qualifiers were applied.

12.0 *GFAA POST-DIGESTION SPIKE/DUPLICATE BURN*

This parameter is not applicable to the analyses performed.

13.0 ***QUALITATIVE IDENTIFICATION***

All criteria were met. No qualifiers were applied.

14.0 ***QUANTITATION/REPORTING LIMITS***

As required by USEPA protocol, all inorganic analytes which were qualitatively identified at concentrations between their respective RLs and their method detection limits, have been marked with "J" qualifiers to indicate that they are quantitative estimates.

METHODOLOGY REFERENCES

Analysis	Reference
Appendix IX Metals	Method 6020, "Test Methods for Evaluating Solid Wastes", SW-846, third edition, Promulgated Updates II, IIA, and III, IVA, and IVB, January 2008
Total Organic Carbon	Method 9060, "Test Methods for Evaluating Solid Wastes", SW-846, third edition, Promulgated Updates II, IIA, and III, IVA, and IVB, January 2008
Chloride	Method 325.2 "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1983 and subsequent revisions
Nitrate-Nitrite	Method 353.2, "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1983 and subsequent revisions
Nitrite	Method 353.2, "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1983 and subsequent revisions
Total Kjeldahl Nitrogen	Method 351.2, "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1983 and subsequent revisions
Sulfate	Method 375.4, "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1983 and subsequent revisions

Table 1 Samples For Data Validation Review
2011 Annual Groundwater Monitoring Event - Ashland Aqualon Functional Ingredients
1111 Hercules Road, Hopewell, Virginia
Test America Sample Delivery Group HAQ035

SAMPLE I.D.	LABORATORY I.D	DATE COLLECTED	MATRIX	ANALYSES PERFORMED								
				VOC	SVOC	ALC	MET	CHL	NO2	NO3	TKN	TOC
LF-5	680-67794-1	4/27/2011	Groundwater	X	X	X	X	X	X	X	X	X
LF-4	680-67794-2	4/27/2011	Groundwater	X	X	X	X	X	X	X	X	X
LF-1	680-67794-3	4/27/2011	Groundwater	X	X	X	X	X	X	X	X	X
LF-2	680-67794-4	4/27/2011	Groundwater	X		X	X	X	X	X	X	X
LF-3	680-67794-5	4/27/2011	Groundwater	X	X	X	X	X	X	X	X	X
WWL-2	680-67794-6	4/27/2011	Groundwater	X		X	X	X	X	X	X	X
WWL-1	680-67794-7	4/27/2011	Groundwater	X		X	X	X	X	X	X	X
Trip Blank 2	680-67794-8	4/27/2011	Trip Blank	X								
Equipment Blank	680-67794-9	4/27/2011	Equipment Blank	X	X	X	X	X	X	X	X	X
WWL-3L	680-67794-10	4/27/2011	Groundwater	X	X	X	X	X	X	X	X	X
WWL-3U	680-67794-11	4/27/2011	Groundwater	X	X	X	X	X	X	X	X	X
RAB-MW2	680-67837-1	4/28/2011	Groundwater	X		X	X	X	X	X	X	X
RAB-MW4	680-67837-2	4/28/2011	Groundwater	X		X	X	X	X	X	X	X
Field Dup	680-67837-3	4/28/2011	Groundwater	X	X	X	X	X	X	X	X	X
NAT-3	680-67837-4	4/28/2011	Groundwater	X	X	X	X	X	X	X	X	X
NAT-2	680-67837-5	4/28/2011	Groundwater	X	X	X	X	X	X	X	X	X
NAT-1	680-67837-6	4/28/2011	Groundwater	X		X	X	X	X	X	X	X
RAB-MW3	680-67837-7	4/28/2011	Groundwater	X		X	X	X	X	X	X	X
MW-10	680-67837-8	4/28/2011	Groundwater	X	X	X	X	X	X	X	X	X
Field Blank	680-67837-9	4/28/2011	Field Blank	X	X	X	X	X	X	X	X	X
MW-7U	680-67837-10	4/28/2011	Groundwater	X	X	X	X	X	X	X	X	X
MW-7L	680-67837-11	4/28/2011	Groundwater	X	X	X	X	X	X	X	X	X
Trip Blank 3	680-67837-12	4/28/2011	Trip Blank	X								

**Table 2 Field Duplicate Sample Results for Inorganic Analyses
Groundwater Duplicate Samples NAT-3 and Field Dup**

Analyte	Sample Result (µg/L)		Field Duplicate Result (µg/L)	RPD	ACTION
	NAT-3		Field Dup		
Aluminum	340		100	109	Less than 5 X RL
Arsenic	6.1		5.7	7	
Barium	94		81	15	
Cadmium	0.36	J	ND	NC	
Calcium	40000		38000	5	
Chromium	2.5	J	ND	NC	
Cobalt	16	J	14	J 13	
Copper	1.2	J	ND	NC	
Iron	3200		2800	13	
Magnesium	18000		17000	6	
Manganese	1800		1700	6	
Nickel	22		19	15	
Potassium	1300		1100	17	
Vanadium	5.0	J	4.0	J 22	
Zinc	20		ND	NC	
Sodium	1200000		1100000	9	
Chloride	250000		250000	0	
Nitrogen, Kjeldahl	2900		2400	19	
Nitrate as N	400		4300	166	
Total Organic Carbon	73000		73000	0	

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